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CENTRAL INTELLIGENCE AGENCY

**INFORMATION REPORT**

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COUNTRY USSR

SUBJECT Critical Comments on Soviet Articles on Photographic Chemistry and Physics

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DATE DISTR 25 MAY 53

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NO. OF PAGES 11

NO. OF ENCLRS.

SUPP. TO  
REPORT NO.

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I Titles and Evaluations of Soviet Papers on Physics Relating to Photography

1. "Effect of the Color of the Light Illuminating One Eye upon the Reaction of the Other Eye", G K Gurtovoi and S V Krakov, Doklady Akad Nauk USSR 78: 391-92, No 2, 1951. [REDACTED]

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The prima facie indications are that the work is original and thorough. No great ingenuity would be required except for the original idea to investigate the matter. So far as we know, no similar work has been done elsewhere, so there is no basis for judging the reliability of the work. The reported effect is so "queer" that other workers can hardly be expected to digress from more conventional studies in order to confirm these results. However, it should be noted that, if true, the results indicate that people would see better in a noisy darkroom, submarine, or airplane, than in quiet surroundings. Gurtovoi is probably new in the field and working under Krakov's direction. Krakov is old in the field.

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2. "The Nature of Photoluminescence of Silver Halide Sublimate Phosphors Activated with Silver", K V Shalimova and A V Reikina, J Exp and Theoret Physics USSR 21: 326-337, No 2, 1951. [REDACTED]

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The paper appears to be average in all respects by Russian standards. By the standards of our journals, the paper would hardly be published in its present form. The very complex results are left largely in their original messiness. What effort is made to produce some semblance of order is done by means of rather wild speculation. We do not know whether these men are old or new in the field.

3. "Photoelectric Sensitivity and Optical Absorption of Thallium Halide Salts", E K Putseiko, Doklady Akad Nauk USSR 78: 453-456, No 3, 1951. [REDACTED]

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This work is an extension of previous work carried out by the author on the photoconductivity in thallium salts. The present work appears to be fair in quality and thoroughness, and there is no reason for doubting the validity of the results. No great amount of ingenuity is shown by the work. We do not know if the author is old or new in the field.

4. "Werner-Fechner's Law for Color-Sensitive Receptors of the Eye", G N Rautian, Doklady Akad Nauk USSR 79: 65-68, No 1, 1951. [REDACTED]

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The work seems to be reliable, although its thoroughness and the significance of the conclusions are limited because the plan of the work was based on a narrow and mechanistic interpretation of a theory of color vision. The paper is comprehensible only when read in combination with the earlier papers by Yustova and Rautian. Little ingenuity, aside from instrument design, is involved. Rautian has been publishing in the field since 1949, but the instrument he uses was invented by Deminka (prior to 1936) who last appeared as junior author with Rautian in 1949.

5. "Non-Linear Photoconductivity of PbS-Photoresistances", V E Lashkarev, I R Potapenko, and G A Fedorus, J Exp and Theoret Physics USSR 19: 887-898, No 10, 1949. [REDACTED]

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The work appears good. The authors have made a thorough study of the properties of the photoconductors in question, and the methods used indicate a fair amount of originality and ingenuity. In our opinion, the work is reliable for the particular photoresistance studied, but may not be generally true. The most experienced of the three authors is Lashkarev. Fedorus worked on the high voltage polarization of semiconductors about 1939 but has not published much work since. Potapenko is apparently the least experienced.

6. "Effect of Water Vapor, Carbon Monoxide, and Nitrogen on the Radiation of the Night Sky", V I Krasovskii, Doklady Akad Nauk USSR 28: 669-672, No 4, 1951. [REDACTED]

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The general over-all quality is fairly high. The subject has been covered rather well and, as far as can be determined, the results and conclusions are reliable. The author is well experienced in the field, having published five papers since the end of 1948.

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7. "Effective Coefficient of Transparency of the Atmosphere", S I Sivkov, Doklady Akad Nauk USSR 80: 599-601, No 4, 1951. [REDACTED]

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This paper is well written and seemingly original, with apparently reliable results. A great amount of experimental data has been included. S I Sivkov has entered this field only recently, as this is his only paper in the Proceedings of the Academy of Science, USSR, during at least the past seven years.

8. "Details of the Spectrum of the Night Sky from 9500 Å to 12,000 Å", V T Lukashenya and V I Krasovskii, Doklady Akad Nauk USSR 79: 241-244, No 2, 1951. [REDACTED]

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This paper is well written and seemingly original, with apparently reliable results. A great amount of experimental data has been included. Lukashenya has recently entered this field of research. Krasovskii is well experienced in the field, having published five papers since the end of 1948.

9. "Measurement of the Ultraviolet Radiation of the Night Sky", S F Rodionov and E N Pavlova, Doklady Akad Nauk USSR 79: 961-964, No 6, 1951. [REDACTED]

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This paper is well written and seemingly original, with apparently reliable results. A great amount of experimental data has been included. Rodionov and Pavlova are experienced investigators; Rodionov has published eight papers and Pavlova four papers since the end of 1948.

10. "Duration of the Excited State of Some Phosphors", K V Shalimova and T P Belikova, Doklady Akad Nauk USSR 82: 713-716, No 5, 1952. [REDACTED]

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The work is original and interesting. The report is rather brief and the scope of the work is not that of a thorough investigation. While we have no reason to doubt the specific experimental results reported, the conclusions and interpretation are regarded as tentative and not reliably established. The senior author has been active in this field for at least five years.

11. "Molecular Scattering of Light in Liquids", G P Motulevich and I L Fabelinskii, Doklady Akad Nauk USSR 83: 203-206, No 2, 1952. [REDACTED]

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This is an original approach to the solution of a fundamental problem on which considerable work has been done by well-known scientists over many years. The method used is ingenious, and seems to be theoretically sound. The arguments sound convincing, and most of the work seems thorough. The results satisfy the stated aim and seem to be a notable contribution. The authors seems to have a very satisfactory understanding of the problem and of past work, as indicated by references to literature of many countries. This paper is the culmination of at least three years' study, and the method has been developed in several previous papers by the same authors. One of the authors has been a frequent (average of one paper per year) contributor to the literature in optics for fifteen years.

12. "Nature of Color Vision of Anomalous Trichromate", E N Yustova, Doklady Akad Nauk USSR 81: 1051-1054, No 6, 1951. [REDACTED]

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This paper is one of the best that we have seen from Russia on this subject. It is well organized on a good basic idea and tested with adequate instruments and a straightforward procedure. The results are presented in a clear and unbiased manner. Little ingenuity was required, beyond the basic novelty of putting classical conclusions to the test of experiment. Insofar as the experiments are described, they appear to have been thorough and reliable. The author has published frequently in the same general field.

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II Titles and Evaluations of Soviet Papers on Chemistry Relating to Photography

1. "Method of Paramagnetic Resonance Absorption in Magneto-Chemistry of Organic Compounds", B M Kozyrev, Doklady Akad Nauk USSR 81: 427-430, No 3, 1951.

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This is an interesting paper. The work is important and seems to be well planned and carried out. A lot of work along these lines is going on in this country, using microwaves instead of radio frequencies. We do not know the author.

2. "Merocyanine Dyes Prepared from Rhodanine. Part I. The Properties of 5-(3-Ethylbenzthiazolin-2-Ylidene-Ethylidene)-2-Methylthiothiazolid-4-One Metho Methylsulphate", Z P Sytnik, I I Levkoev, and M V Deichmeister, Zh Obschel Khimii 21: 768-772, No 5, 1951. [REDACTED]

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Originality and ingenuity are medium. The reliability is doubtful, since conflicting reports in the same subject matter are reported by VanDormall, Bull Soc Chim Belg 58: 403-411, 1949, "Instabilite des merocyanines quaternaries". Sytnik and Levkoev are old hands in this field and usually pretty good.

3. "Tautomerism and Isomerism of 2-Nitroindandione-1,3," G Vanag, Ya Eidus, and S Giller, Doklady Akad Nauk USSR 79: 977-980, No 6, 1951. [REDACTED]

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This paper seems to contain reasoned argument based on experimental facts. Whether or not the conclusions are fully justified is open to contest. The authors have carefully avoided any appeal to resonance theory, which is unpopular in the USSR right now. Vanag is old in the field, having done his graduate work about 1908. We do not know the other two authors.

4. "Vinylogs of Malonaldehyde", I L Krunynants and A K Shillegodskii, Zh Obschel Khimii 18: 184-189, No 2, 1948. [REDACTED]

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Originality, ingenuity, thoroughness and reliability are good. The authors are old in the field.

5. "Color Reactions with Sulfates, Phosphates, and Tungstates", V I Kuznetsov, Doklady Akad Nauk USSR 77: 61-65, No 1, 1951. [REDACTED]

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The paper can be considered a fair contribution to the analytical literature. The experiments appear to be well thought out. We do not know of the author's work in this field but would judge that he is a fairly new worker.

6. "Electron Diffraction Study of Cellulose (Ramie Fiber)", A L Zaides and I G Sinitskaya, Doklady Akad Nauk USSR 80: 213-214, No 2, 1951. [REDACTED]

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Originality and ingenuity are average. Thoroughness and reliability are poor. The authors are fairly new to the field. They have been junior authors on other papers regarding the electron microscope.

7. "Cl-Br-Ni Color Reactions", V I Kuznetsov, Doklady Akad Nauk USSR 77: 281-284, No 2, 1951. [REDACTED]

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The subject matter is treated logically and intelligently, and the reactions described may be useful. The paper rates good with respect to originality and ingenuity, and adequate with respect to thoroughness and reliability. We do not know of the author's work in this field but would judge that he is a fairly new worker.

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8. "The Problem of the Structure of Merocyanine Dyes", I I Levkoev, N N Sveshnikov, and E B Livshits, Doklady Akad Nauk USSR 74: 275-278, No 2, 1950.

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This paper contributes little, if anything, new to the subject. One gets the impression that the authors have set out to collect some miscellaneous data to justify publishing a paper, the main gist of which is that the Russians thought of all of this before we did. Actually, it is a direct steal. Levkoev has published several articles in the same general field; the other two authors are not known to us.

9. "Chromatographic Method of Determining Adsorption Isotherms, Isobars, and Isosters", M I Yanovskii, J Appl Chem 24: 661-666, No 6, 1951.

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The author has some experience in this field, having had two previous publications in related subjects. It appears that the article is original and moderately thorough. There is a bit of doubt as to its reliability in that his contribution is not supported by any experimental data.

10. "Reduction of Some Amides and Substituted Amides. II Kinetics and Mechanism of the Reduction of Electrocatalysis of Some Amides", A V Koperina and M M Klyuchareva, Zh Obshch Khimii 11: 51-62, No 1, 1941.

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A V Koperina has been publishing for quite a long time. He is probably an able research chemist. The subject is an important one and the authors have done a pretty good job. The article is not very original, nor are the apparatus used and the experiments made exceptionally ingenious, but for two materials studied, namely, benzamide and hippuric acid, the study appears to be thorough. No judgment on reliability can be made.

11. "Investigation of Thermal and Thermohydrolytic Decomposition of Cellulose Acetate and Its Films", A A Freiman and V A Shcherbakova, J Appl Chem USSR 24: 754-760, No 7, 1951.

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Over-all quality is good. We do not find any previous publications by either of these authors in this field.

12. "Infrared Spectroscopy of the Hydrogen Bond at Low Temperatures", V N Nikitin and N G Yaroslavskii, Doklady Akad Nauk USSR 77: 1015-1018, No 6, 1951.

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The instrumentation seems to be good. No particular ingenuity is shown, but the discussion shows some originality of thought. The work is not extensive, but is sufficiently thorough to warrant publication. Although much work of this type has been published in other countries, the references are mainly to Russian journals. As far as we can judge, the work is reliable, except possibly as regards the authors' claims of originality. Both authors are experienced in this field. Nikitin has also published papers on various biochemical problems.

13. "Viscosity and Structure of Molecules", G M Panchenkov, Doklady Akad Nauk USSR 80: 899-902, No 6, 1951.

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This work is original and shows some ingenuity. The results seem reliable and fairly thorough. The author is experienced in this field.

14. "Viscosity of Binary Liquid Systems in the Critical Region", V K Samenchenko and E L Zorina, Doklady Akad Nauk USSR 80: 903-905, No 6, 1951.

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This paper is quite thorough and originality and ingenuity are moderate. There are insufficient data to judge reliability. The authors are experienced in this field.

- 25X1 35. "Effect of Ultrasonic Vibrations Upon Gelatin and Amino Acid Solutions in the Pressure of Air", N A Khenokh and E M Lapinskaya, Doklady Akad Nauk USSR 80: 921-924, No 6, 1951.

This brief paper is a continuation of work in the field of ultrasonics reported in previous papers by one of the authors. It does not seem that the originality or ingenuity is particularly noteworthy. It is not possible to assess the reliability without a repetition of the work, but it would seem that more meaningful results might have been obtained with more careful control of the conditions of the experiments. We have no information concerning the experience of the authors in this field.

- 25X1 16. "Theory of True Solutions", A A Zhukhovitskii, B N Finkel'shtein and I S Kulikov, Doklady Akad Nauk USSR 81: 227-230, No 2, 1951.

This paper is virtually identical with the earlier work of Fowler and Guggenheim, to whom no reference is given. We have no knowledge of the authors.

- 25X1 17. "Law of Development of Long-Range Elastic Deformation", L V Chumakova and P A Rebinder, Doklady Akad Nauk USSR 81: 239-242, No 2, 1951.

25X1 This is an excellent paper; it is highly original with a marked ingenuity shown here. The work is thorough and reliable. The authors are experienced in this field.

- 25X1 18. "Crystal Structure of Iodoform", A I Kitaigorodskii, T L Khotsyanova and Yu T Struchkov, Doklady Akad Nauk USSR 78: 1161-1164, No 6, 1951.

25X1 This appears to be good work. The problem studied did not require any special originality or ingenuity, but well-known methods have been used, apparently with care, to yield results which can be considered reliable, at least as far as can be judged from the report itself. We have no knowledge of the authors.

- 25X1 19. "Diffusion of Polymers in Solutions", S E Bresler, S A Pavlova, and P A Finogenov, J Tech Physics USSR 21: 1061-1065, No 9, 1951.

25X1 The quality of the work is good, as regards originality, ingenuity, thoroughness, and reliability. Bresler has been publishing since 1939, but we have no knowledge of the other two authors.

- 25X1 20. "Investigations in the Field of Cyanine Dyes. VI On the Properties of 7,7'-Bis-(Dimethylamine)-thiacarbocyanines", I I Levkoev and B S Portnaya, Zh Obschei Khimii 21: 2050-2055, No 11, 1951.

25X1 Levkoev is an old hand and turns out pretty good work. The present work is routine and of interest but not sensational. The quality is equal to that of a paper published in the Journal of the American Chemical Society.

- 25X1 21. "Problems of Kinetics and Catalysis. IV Homogeneous and Ionic Catalysis". S N Danilov, Commission on Catalysis of the Department of Chemical Sciences of the USSR Academy of Science, Moscow 6: 309-318, 1949.

Danilov has been working in the field, particularly of rearrangement of aldehydes, for many years. He and Venus-Danilova, presumably his wife, are experts in this field. One must note, however, that they do not apply the modern concepts of reaction kinetics. While

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their work can be considered a source of information, they do not treat their material as exhaustively as the English and American schools of authors have handled similar subjects.

22. "A Study with an Electron Microscope of the Effect of Electrolytes upon the Structure of Collagen", A L Zaides and S L Pupko, Doklady Akad Nauk USSR 80: 647-648, No 4, 1951. [REDACTED]

25X1 The authors have previously published a considerable amount in this field. This paper extends their earlier work, adding significantly to it. As far as we can tell, the work is good. No great degree of originality or ingenuity is shown, but the experimental results and their interpretation seem to be reliable. The job is not a thorough one, but presumably the research in this field is being continued.

23. "Amino-Acid Composition of Protein Preparations Obtained by Treating Some Vegetable and Animal Proteins with Alkalies", M I Levyant, V N Grekhovich, and N E Plotnikova, Doklady Akad Nauk USSR 80: 649-652, No 4, 1951. [REDACTED]

25X1 Some originality is shown in this paper, and ingenuity, thoroughness and reliability are fair. The authors are experienced in this field of science.

24. "Height of the Potential Barrier in Hydrogen Bonds of Benzoquinhydrone", A I Brodskii and I P Gragerov, Doklady Akad Nauk USSR 79: 277-279, No 2, 1951. [REDACTED]

25X1 This seems to be good work, well-conceived and planned. We have no basis for judging its thoroughness or reliability. Brodskii has been publishing in this field of science for many years. Gragerov seems to be a newcomer, although he published one paper on a closely related subject two or three years ago.

25. "Vaporization of Solids", M K Baranayev, J Phys Chem USSR 20: 399-402, No 4-5, 1946. [REDACTED]

25X1 Baranayev has been in the front rank of workers in this field for the past fifteen years. His work, like that of most others attempting to measure accommodation coefficients, suffers from too simple an experimental set-up. This is a useful guide to better work.

26. "Change in the Form of Protein Molecules in Urea Solutions", A G Pasynskii and R S Chernyak, Doklady Akad Nauk USSR 79: 1001-1004, No 6, 1951. [REDACTED]

25X1 Some originality and ingenuity are shown in this paper. It is fairly thorough and the reliability is good. The authors are experienced in this field of science.

27. "Steplike Character of Denaturation of the Protein Molecule", V A Belitsker and A S Tsypserovich, Doklady Akad Nauk USSR 83: 257-259, No 2, 1958. [REDACTED]

25X1 This paper seems lacking in actual experimental detail. The main thesis of the paper is one that we believe protein chemists would have expected. We are not familiar with the authors.

28. "Investigation of Protein Surface Films Absorbing Hydrophobic Substances", G A Deborin and L B Gorbacheva, Doklady Akad Nauk USSR 82: 943-946, No 6, 1952. [REDACTED]

25X1 The value of this paper does not lie in its originality or ingenuity. Assuming the reliability of the data, it does offer evidence of dimer formation in the surface layer by certain proteins in the presence of Sudan III dye. The names of the authors are not, to us, familiar in the field of surface chemistry.

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29. "Crystallization of Resynthesized Protein", S E Brusler and N A Selezneva, Doklady Akad Nauk USSR 84: 1013-1016, No 5, 1952. [ ]

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The work reported here is of a definitely new character and the experiments are very interesting. We have no knowledge as to whether the authors are or are not experienced in this field.

30. "Refractive Indexes of the Higher Normal Paraffin Hydrocarbons", A V Togansen, Doklady Akad Nauk USSR 81: 1077-1079, No 6, 1951. [ ]

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From the evident internal consistency of the results and comparisons from the literature, the work is judged to be thorough and reliable. The report would be better if it included the other published data for comparison. Chemical Abstracts lists papers by this author in 1950 and 1951.

31. "Effect of Metal Ions upon the Visco-Elastic Characteristics of Ethyl Cellulose", S A Gilikman and O G Efremova, Doklady Akad Nauk USSR 81: 1089-1092, No 6, 1951. [ ]

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This paper, as is the case with many of the Russian papers, does not contain a large amount of actual experimental data. The references to the literature, outside of Russia, bearing on the phenomena reported are rather meager; and some with which we are familiar are definitely omitted; there may be others. Since the phenomenon is an old one, we would definitely discount the work on the score of originality.

32. "Chain Mechanism of Decomposition of  $H_2O_2$ : The Existence of the HO<sub>2</sub> Radical and the Higher Hydrogen Peroxide of A N Bakh", K Z Kruglyakova and N M Emanuel, Doklady Akad Nauk USSR 83: 593-596, No 4, 1952. ( [ ] )

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Both authors are unknown to us. The paper is sponsored by Seminow who is an outstanding authority on problems of chemical kinetics, and it contains original concepts, but it lacks entirely in thoroughness. Conclusions are drawn from experiments without the evidence of due precaution against errors. The presentation is not clear and seems rather biased. Although the authors seem to be acquainted with some literature outside of Russia, they carefully omit to quote it.

### III Titles and Evaluations of Soviet Papers in the Field of Photography

1. "Effect of Sulfur Compounds upon the Kinetics of Finishing of Photographic Emulsions", M V Chibisov, A A Titov, and A A Mikhailova, Doklady Akad Nauk USSR 78: 319-322, No 2, 1951. [ ]

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This paper taken in itself is far too sketchy in detail to allow adequate evaluation. The authors in previous papers have indicated that they are quite familiar with the general modern theoretical ideas underlying their work, but judgment on the specific novel results claimed must be reserved until an adequate description of experimental methods is available. Titov has been working in this field about six years. Chibisov and Mikhailova have many more years' experience.

2. "Diffusion of Silver and Bromine Ions in Solid Silver Bromide", A Murin and Yu Taush, Doklady Akad Nauk USSR 80: 579-581, No 4, 1951. [ ]

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Originality, thoroughness and reliability are average, while ingenuity is above average. We do not know whether the authors are new or old to this field.

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3. "Transition Effects of Strongly Ionizing Particles and 'Stars' Recorded by Photographic Emulsion in the Stratosphere", Zh S Takibaev, Doklady Akad Nauk USSR 78: 457-459, No 3, 1951. [REDACTED]

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This work is insignificant. We have no knowledge of this author.

4. "Function of the Internal Centers Formed in Photolysis of Emulsions in the Ripening Process", I M Ratner and A A Titov, Doklady Akad Nauk USSR 80: 217-220, No 2, 1951. [REDACTED]

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The paper is an original contribution to the influence of conditions in the ripening stage on the sensitivity of the finished emulsion. The presentation lacks clarity, since results and interpretation are intermingled, but there seems to be no reason to doubt the results, or to reject the interpretation.

5. "Spectral Sensitometry of Multilayer Photographic Color Material", Yu N Gorokhovskii and O M Ponomarenko, Doklady Akad Nauk USSR 79: 591-593, No 4, 1951. [REDACTED]

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This work is straightforward and fairly good, but not too thorough and indicates a lack of knowledge of many of the problems. We have no previous reference to these authors.

6. "Thermal Dependence of Viscosity of Photographic Emulsions and Gelatin Solutions", M I Shor, J Appl Chem USSR 24: 748-753, No 7, 1951. [REDACTED]

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This paper shows little originality, some ingenuity, and questionable thoroughness and reliability. The author, so far as we know, is relatively inexperienced in the field.

7. "Photographic Film having Visual Spectral Light Sensitivity", A V Borin, D Ya Martynov, and T I Smolko, Astronomical Journal USSR 29: 5-13, No 1, 1952. [REDACTED]

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Borin has been working on measurements of spectral sensitivity, etc, for some time. The data seem to be all right, but the paper is fundamentally poor, showing a defect typical of much Russian work, namely, they have written an elaborate paper about doing something which has been done at least as well before. None of the emulsions reproduces the sensitivity of the eye any better than those which have been commercially available for over twenty years, and none is a good enough match for eye sensitivity to make any real difference in accuracy of comparison with visual stellar magnitudes.

8. "Relationship between the Maximum Light Sensitivity of Photographic Emulsion, Its Corresponding Fog Density and the Accumulation of Silver Halide in Ripening", I M Ratner, Doklady Akad Nauk USSR 84: 753-755, No 4, 1952. [REDACTED]

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This paper is average in all respects. The author is new to the field.

9. "Kinetics of Finishing of Photographic Emulsions and the Role of Sulfurous Compounds", K V Chibisov, A A Titov, and A A Mikhailova, Doklady Akad Nauk USSR 84: 547-550, No 3, 1952. [REDACTED]

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This paper is average in thoroughness and reliability and above average in originality and ingenuity. The authors are experienced in the field.

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10. "The Present State of the Problem of Photographic Sensitivity (Communication 94)", K V Chibisov and A A Titov, Transactions of Kino-Foto-Scientific Research Institute USSR 8: 5-19, 1947.

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This paper is a good review of the subject as it stood in 1947. The authors have been thorough and impartial in evaluating previous work. Both men have been active for some time in the field of photographic theory.

11. "Methods of Microchemical Analysis of the Solid Phase of Photographic Emulsions (Communication 97)", A A Mikhailova and K V Chibisov, Transactions of Kino-Foto-Scientific-Research Institute USSR 8: 54-74, 1947.

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This is a good paper. The analytical work, although in most cases not new, shows ingenuity in applying these procedures to various phases of the problem. The workers are well versed in the field, and the paper is one of a series on an investigation of the nature of photographic sensitivity of silver halide grains.

12. "New Data on the Function of Gelatin in Photographic Emulsions", V V Trusov and K M Saldadze, Doklady Akad Nauk USSR 81: 867-870, No 5, 1951.

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At its face value, the experimental work, which is only sketchily described, seems to show some originality and ingenuity, but the results are not nearly adequate to bear the load of theoretical interpretation forced on them. One of the authors, Trusov, published work on gelatin in 1939, while the other, about that time, published work on ore treatment. Chemical Abstracts lists no publication from either author later than 1946, but the present paper cites a publication and patent application in 1951.

13. "Effect of Surface-Active Substances (Color-Formers) on the Specific Viscosity of Gelatin Solutions and Photographic Emulsions", B V Deryagin, S M Levi, and V S Kol'tsov, Doklady Akad Nauk USSR 79: 283-286, No 2, 1951.

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This article seems to be a confusing, or confused theoretical discussion of the subject as outlined in the title. It is based on tenuous experimental data of which no details are given. Deryagin has been publishing in the field of colloid chemistry for the past 25 years. The junior authors are virtually unknown.

14. "Sensitometric Characteristics of Color Development of Multilayer Color Photographic Materials", D K Balabukha and Yu N Gorokhovskii, Doklady Akad Nauk USSR 79: 969-972, No 6, 1951.

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This work appears to be well thought out and well done. It is quite important. Similar work has not been published in this country, although we have been doing such work for twelve years. We do not know the experience of the authors.

15. "Importance of Complex Silver Compounds in the Development Process", N M Zyskin, J Appl Chem USSR 24: 1143-1150, No 11, 1951.

25X1

The author has devised simple but ingenious experiments which appear to prove his hypothesis that unexposed grains are reduced (by a type of physical development) in the region of the image. The work appears to be well done but his extensions into adjacency effects may not be valid. We do not know the experience of the author.

16. "Formation of a Color Image on Motion Picture Film", V Chel'tsov, Kinomekhanik USSR, 1G-22, No 9, 1952.

25X1

This is a very elementary evaluation of the subject.

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17. "Absorption of Light, Internal Photo-Electric Effect and Photographic Sensitivity in Silver Iodide", B Barshchewski, J Exp and Theoret Physics USSR 20: 862-863, 1950.

25X1

This paper is a detail in a series by the same author which was started in 1942. The work as a whole is probably reliable enough as a statement of observations under the conditions described, but shows no great command of either technical or theoretical resources, and appears deficient in critical judgment. It is not very thorough and shows little essential progress from the status of the earlier papers. The author has published on the general subject of photoconductivity and absorption, mostly of silver halides, since 1942, with some acceleration in rate of publication since about 1949.

18. "Photographically Active Components of Gelatin", A A Titov, Transactions of Kino-Foto-Scientific-Research Institute USSR 8: 41-53, 1947.

25X1

This paper is average in originality, ingenuity, thoroughness, and reliability. The author is experienced in the field.

19. "Kinetics of the Interaction of Gelatin with Silver Ions", A A Titov and I M Ratner, Transactions of Kino-Foto-Scientific-Research Institute USSR 8: 20-40, 1947.

25X1

This paper is average in originality, ingenuity, thoroughness, and reliability. Titov is experienced, but Ratner is new to the field.

20. "Action of Electrons on Photographic Emulsions", S Grenishin, J Tech Physics USSR 22: 33-39, No 1, 1952.

25X1

Although this paper contains no very unexpected result, the work is interesting and appears to have been competently planned and executed. Some elaboration in equipment is indicated, eg, the use of an electron microscope. The work is refreshingly free from the recent tendency to bombast. The information on relation between conditions of exposure and development seems mostly new. The author seems a relatively new entrant into the field, as his name does not appear in Chemical Abstracts up to and including 1951.

21. "Reproduction of Micro and Macro Details by Photographic Emulsions", G A Istomin, Doklady Akad Nauk USSR 82: 897-900, No 6, 1952.

25X1

This manuscript does not indicate originality, ingenuity, thoroughness or reliability. The author is apparently inexperienced in this field of science--perhaps has recently entered it. This work by Istomin is very inferior to the work by I I Breido.

22. "Resolving Power of Photographic Materials in Ultraviolet Light", I I Breido, J Tech Physics USSR 22: 508-514, No 3, 1952.

25X1

"Spectral Distribution of the Scattering of Light by Photographic Emulsions and the Effect of Sensitization on Resolving Power", I I Breido and P Kh Pruss, J Tech Physics USSR 22: 515-524, No 3, 1952.

"Dependence of the Resolving Power of Photographic Materials upon the Wavelength of the Light", I I Breido and P Kh Pruss, Doklady Akad Nauk USSR 82: 893-896, No 6, 1952.

While this work is not brilliant or original, it is a good workmanlike job. It seems to be treated adequately.

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